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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,044	01/24/2005	Noriyuki Taoka	256458US90PCT	2475
22850	7590	09/12/2007		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER GREENE, JASON M	
			ART UNIT 1724	PAPER NUMBER
			NOTIFICATION DATE 09/12/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/502,044

Applicant(s)

TAOKA ET AL.

Examiner

Jason M. Greene

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-14 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 15-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____. |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date
:7/29/04;10/29/04;2/22/05;4/29/05/10/4/05;2/17/06;2/27/06;11/7/06.

DETAILED ACTION

Claims

1. With regard to claim 2, the Examiner suggests Applicants delete the number "30" in line 9 to correct an apparent typographical error.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2 and 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Japanese Patent Application Publication JP 2002-273130.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

JP 2002-173130 discloses a ceramic filter assembly comprising major and minor axes and a plurality of columnar honeycomb filters (1) adhered together, the plurality of columnar honeycomb filters being made of porous sintered ceramic material with a ceramic sealing material layer (5) and having end faces and a generally elliptical cross-sectional shape when cut parallel to the end faces of the plurality of honeycomb filters, the plurality of honeycomb filters including a honeycomb filter having a rectangular cross-sectional shape when cut parallel to the end faces and provided with a long side having a length B1 and a short side having a length B2 in which the ratio $B1/B2$ is between 1.1 and 3.0, the honeycomb filter being arranged such that the long side and the short side of the honeycomb filter are respectively parallel to the major axis and minor axis of the assembly, wherein each honeycomb filter includes a plurality of rectangular cells extending along an axis of the filter with each cell provided with a long side having a length C1 and a short side having a length C2 in which the ratio $C1/C2$ is between 1.1 and 3.0, the plurality of honeycomb filters being arranged such that the long side of the cells are parallel to the major axis of the assembly and the short sides of the cells are parallel to the minor axis of the assembly, wherein when a hypothetical first straight line intersects the generally elliptical contour at two points in which the distance therebetween is maximum and a hypothetical second straight line orthogonal to the first straight line intersects the generally elliptical contour at two points in which the distance therebetween is maximum, the number of sealing material layers the first straight line of the assembly traverses is less than or equal to the number of sealing

material layers the second straight line traverses in Figs. 4(b), 7(g) and 10 and paragraphs [0010] to [0021] of the English language translation.

4. Claims 15, 19 and 20 are rejected under 35 U.S.C. 102(a) as being anticipated by European Patent Application Publication EP 1 142 619 A1.

EP 1 142 619 A1 discloses a columnar honeycomb filter (F1) comprising an end face and a rectangular cross-sectional shape when cut parallel to the end face thereof and including a long side having a length B1 and a short side having a length B2 in which the ratio B1/B2 is 3.0 or less, and being made of a porous ceramic material including SiC and metal silicon, and further comprising a catalyst in Figs. 2 and 10 and page 3, line 24 to page 5, line 30

5. Claims 17 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Ichikawa et al. (US 6,656,564 B2).

Ichikawa et al. discloses a columnar honeycomb filter (1) comprising an axial direction and a plurality of rectangular (square) cells (3) extending along the axial direction of the honeycomb filter, each rectangular cell being defined by a relatively thick cell wall and a relatively thin cell wall that are orthogonal to each other, and being made of a porous ceramic sintered material, wherein D1/D2 is 3 or less in Figs. 1 and 2(a).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application Publication EP 1 142 619 A1 in view of Japanese Patent Application Publication JP 6-241018.

EP 1 142 619 A1 discloses a ceramic filter assembly (9) comprising major and minor axes and a plurality of columnar honeycomb filters (F1) adhered together, the plurality of columnar honeycomb filters being made of porous sintered ceramic material with a ceramic sealing material layer (15) and having end faces and a generally elliptical cross-sectional shape (see page 3, lines 24-27) when cut parallel to the end faces of the plurality of honeycomb filters, the plurality of honeycomb filters including a honeycomb filter having a rectangular cross-sectional shape when cut parallel to the end faces and provided with a long side having a length B1 and a short side having a length B2 in which the ratio B1/B2 is between 1.1 and 3.0, the honeycomb filter being arranged such that the long side and the short side of the honeycomb filter are respectively parallel to the major axis and minor axis of the assembly, wherein when a hypothetical first straight line intersects the generally elliptical contour at two points in which the distance therebetween is maximum and a hypothetical second straight line orthogonal to the first straight line intersects the generally elliptical contour at two points in which the distance

therebetween is maximum, the number of sealing material layers the first straight line of the assembly traverses is less than or equal to the number of sealing material layers the second straight line traverses in Figs. 2 and 10 and page 3, line 24 to page 5, line 30.

EP 1 142 619 A1 does not disclose the honeycomb filter being arranged such that the long side and the short side of the honeycomb filter are respectively parallel to the major axis and minor axis of the assembly.

JP 6-241018 discloses a similar filter assembly arranged such that the long side and the short side of the honeycomb filter are respectively parallel to the major axis and minor axis of the assembly in Figs. 3 and 10.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the filter arrangement of JP 6-241018 into the filter assembly of EP 1 142 619 A1 to provide an efficient arrangement of filters providing a desired overall shape.

8. Claims 2, 16, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application Publication EP 1 142 619 A1 in view of Outland (US 4,276,071).

EP 1 142 619 A1 differs from the claims in that it fails to teach each honeycomb filter includes a plurality of rectangular cells extending along an axis of the filter with each cell provided with a long side having a length $C1$ and a short side having a length $C2$ in which the ratio $C1/C2$ is between 1.1 and 3.0, the plurality of honeycomb filters

being arranged such that the long side of the cells are parallel to the major axis of the assembly and the short sides of the cells are parallel to the minor axis of the assembly.

Outland teaches a filter having such as assembly in Fig. 5b and col. 6, lines 3-11.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the rectangular cell structure of Outland into the filter of EP 1 142 619 A1 to provide cells that compliment the rectangular cross-sectional shape of the filter. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the rectangular cells of Outland for the square cells of EP 1 142 619 A1 in that such are alternate shapes for flow cells in the art. Mere substitution of one known cell shape for another in the art without a showing on unobvious or unexpected results being within the scope of one having ordinary skill in the art.

9. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (US 6,656,564 B2) in view of European Patent Application Publication EP 1 142 619 A1.

Ichikawa et al. does not teach the porous ceramic sintered material including silicon carbide and metal silicon or a catalyst being carried, but EP 1 142 619 A1 teaches a similar filter having such properties in page 3, line 24 to page 5, line 30.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the material and catalyst of EP 1 142 619 A1 into the

filter of Ichikawa et al. to provide a thermally stable filter having a catalytic function, as suggested by EP 1 142 619 A1 in page 3, line 24 to page 5, line 30.

Allowable Subject Matter

10. Claims 3-14 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 3 and 4, the prior art made of record does not teach or fairly suggest the ceramic filter assembly of claim 3 wherein each honeycomb filter includes an axis and a plurality of rectangular cells extending along the axis of the filter and defined by relatively thick cell walls and relatively thin walls that are orthogonal to each other, the plurality of honeycomb filters being arranged such that the relatively thick cell walls are parallel to the major axis of the assembly and the relatively thin cell walls are parallel to the minor axis of the assembly.

With regard to claims 5-8, the prior art made of record does not teach or fairly suggest the ceramic filter assembly of claim 5 or 7 wherein the ceramic sealing material layer includes a first sealing material layer extending parallel to the major axis of the assembly and a second sealing material layer extending orthogonal to the major axis of

the assembly, with the first sealing material layer being thicker or having a thermal conductivity that is lower than the second sealing layer material.

With regard to claims 9-14, the prior art made of record does not teach or fairly suggest the ceramic filter assembly of claim 9 or the canning body of claim 12 wherein the outer sealing and thermal insulation material layer made of ceramic and formed on the periphery includes a first portion located along an extension of the major axis of the assembly that is thicker than a second portion located along an extension of the minor axis of the assembly.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Hamanaka et al. reference discloses a similar filter assembly. The Aoki reference is an English language equivalent of JP 2002-273130.

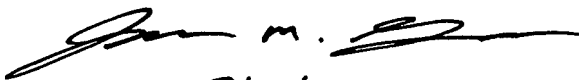
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene
Primary Examiner
Art Unit 1724


9/4/07

jmg
September 4, 2007